

## **Historic, Archive Document**

Do not assume content reflects current  
scientific knowledge, policies, or practices.



A49.9  
R31A  
Cop. 2

U. S. DEPT. OF AGRICULTURE  
NATIONAL AGRICULTURAL LIBRARY

JUN 7 - 1967



Dairy-Herd-Improvement Letter

ARS-44-190  
(Vol. 43, No. 2)

March 1967

DHIA PARTICIPATION REPORT 1/  
January 1, 1967

The National Cooperative Dairy Herd Improvement Program is a composite of the Standard (including DHIR), Owner-Sampler, and Weigh-a-Day-a-Month recordkeeping plans. On January 1, 1967, the Program included 64,123 herds consisting of 2,977,475 cows on test, which is 21.1 percent of the nation's dairy cow population. These figures represent an increase of 2.0 percent of cows on test, an increase of 22,088 cows, and a decrease of 2,175 herds during the year. Table 1 presents this data and also includes 984 herds and 52,998 cows on other testing programs such as Vocational Agriculture, commercial, private, etc.

Each of the 50 States and Puerto Rico are represented in the total program that includes 1,344 associations and 2,319 supervisors. The participation reports for all testing programs and for the Standard, Owner-Sampler, and Weigh-a-Day-a-Month plans are shown in tables 1, 2, 3, and 4, respectively.

On January 1, 1967, 1,196 fewer herds and 40,327 more cows were on Standard test than in the previous year. Average herd size was 55.7 cows, an increase of 2.8 cows per herd over the previous year. Milk production of Standard DHIA cows has increased consistently since 1957 at a rate of 223 pounds per

-----

1/ Prepared by C. A. Rampendahl, R. D. Plowman, and B. T. McDaniel from data supplied by the State Extension Dairy men in charge of DHIA Testing.

Issued April 1967

year. Milk fat has slightly but steadily declined at an average annual rate of 0.012 percent per year since 1957. The changes in milk production and milk fat are partly a reflection of a change in breed proportions. Herd size and the percentage of milk fat agree closely with the estimates for all U.S. dairy cows.

On January 1, 1967, 820 fewer herds and 14,711 fewer cows were on the Owner-Sampler test than in the previous year. Average herd size was 32.4 cows. Wisconsin had 42.4 percent of the Owner-Sampler enrollment. The Weigh-a-Day-a-Month plan had 1,001 herds consisting of 53,429 cows. Average herd size for this plan was 53.4 cows.

Electronic data processing at State and regional DHIA centers continues to advance as shown in table 5. Electronic processing of Standard plan records (including DHIR) has reached 100 percent in 38 States. In the United States, it includes 94.5 percent of the herds and 85.0 percent of the cows on Standard DHIA. The corresponding values for records of the three plans combined are 87.6 and 82.0 percent, respectively.

In 1966, 99.5 percent of the lactation records reported to USDA were centrally processed. The benefits to be derived from centrally processed DHIA herdbooks and records have been thoroughly demonstrated during the last 10 years. It is hoped that dairymen who have not converted to the improved system will do so soon.

The present status and changes since 1906 in Standard DHIA enrollment are shown in table 6. The number of cows in the program has about doubled since 1950, although the number of herds tested has dropped slightly.

Table 7 is a 10-year summary of the production of Standard DHIA and all U.S. dairy cows. Table 8 shows that the proportion of cows participating in the total DHIA program increased from 9.3 percent in 1956 to 21.1 percent in 1966.

A list of the 222 counties having 40 percent or more of their dairy cows on one or more of the recordkeeping plans is shown in table 9. Twenty-one percent of the counties have 25 percent or more of their dairy cattle enrolled in one or more recordkeeping plans.

## LACTATION RECORDS REPORTED IN 1966

The number of lactation records reported to the USDA for genetic appraisal and research was 1,788,974 in 1966. This is 39,222 more than in 1965. Of these, 55.4 percent were reported on magnetic tape, 44.1 percent on punched USDA 1095 cards, and 0.5 percent on hand-recorded USDA 718 cards. These figures are summarized by State in table 10.

Since 1956, the number of cows enrolled in Standard DHIA has increased 46 percent, while the number of lactation records reported to the USDA has increased 172 percent. As a result, the proportion of cows on test having reported records has increased from 47 to 87 percent since 1956. This more complete reporting is attributed largely to the continued development of central processing of Standard DHIA records. A summary of the records reported since 1956 is shown in table 11.

## LACTATION RECORD REJECTS

Rejects amounted to 9.6 percent of all records received and reconciled in 1966. The relative frequency of Standard DHIA lactation record rejects in 1966 by type of reject is given in table 12. Conflicts on birth dates have continued to be the most numerous classification of edit rejects.

## SIRES SUMMARIZED IN 1966

In the four quarterly sire evaluations in 1966, 17,239 summaries were made of sires in DHIA. Individual sire records sent to the States are given by breed in table 13. Seventy-eight percent of the sire summaries represented sires in natural service, averaging 14.0 daughter-herdmate comparisons per summary and a total of 187,890 progeny. The remaining 22 percent included summaries for sires used in artificial insemination and 1,036,121 daughters, averaging 273 daughter-herdmate comparisons per summary.

During 1966, a total of 52,269 copies of individual sire summaries were made available to the cooperating States.

## DHIA COWS INDEXED IN 1966

A total of 11,659 DHIA cows, representing the top 2 percent of registered progeny of bulls summarized in 1966, were indexed in the two evaluations performed.



ERRATUM: For February 1967 Dairy Herd Improvement Letter, ARS-44-188, "DHIA Age Adjustment Factors."

1. Table 4, page 7. Maximum production for Holstein cows calving from November through June in Region 1 (Northeast) should be 13,868 pounds instead of the 13,368 as shown.

2. Table 12, page 18. Part of the title was omitted because of printing failure and should read: TABLE 12.--HOLSTEIN AGE ADJUSTMENT FACTORS for milk and fat production: for cows that calve in Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, and New York 1/

TABLE 1.--The National Cooperative Dairy Herd Improvement Program and other testing programs  
(January 1, 1967)

State	Counties	Asso- ciations	Super- visors	Standard		Owner-Sampler		Weigh-a-Day- a-Month		Total		Milk cows in U.S.	
				Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows	Total 1/	In all plans
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Thousands	Percent
Ala-----	55	23	24	330	30,821	5	300	18	1,246	353	32,367	158	20.5
Alaska---	2	2	2	4	165	4	150	--	----	8	315	2	15.8
Ariz-----	5	4	10	88	16,544	---	---	--	----	88	16,544	52	31.8
Ark-----	31	9	9	79	3,800	96	2,700	15	500	190	7,000	116	6.0
Calif-----	43	30	118	1,862	362,452	142	8,886	--	----	2,004	371,338	772	48.1
Colo-----	15	12	22	199	14,253	15	730	--	----	214	14,983	99	15.1
Conn-----	8	8	23	412	22,678	83	3,302	--	----	495	25,980	70	37.1
Del-----	3	3	5	87	4,461	10	246	3	54	100	4,761	17	28.0
Fla-----	30	10	11	121	20,089	6	2,068	18	5,358	145	27,515	179	15.4
Ga-----	90	31	32	391	31,116	6	385	42	4,838	439	36,339	150	24.2
Hawaii---	2	1	2	19	4,480	1	26	--	----	20	4,506	15	30.0
Idaho-----	28	36	34	547	30,715	21	601	--	----	568	31,316	162	19.3
Ill-----	83	53	80	1,451	61,352	400	13,215	274	8,151	2,125	82,718	389	21.3
Ind-----	84	59	75	1,060	43,142	442	29,555	--	----	1,502	72,697	301	24.2
Iowa-----	97	71	95	1,662	59,470	1,445	37,045	--	----	3,107	96,515	657	14.7
Kans-----	92	56	58	785	35,328	125	3,976	10	300	920	39,604	228	17.4
Ky-----	72	38	44	513	22,048	44	1,575	59	2,083	616	25,706	396	6.5
La-----	34	25	27	82	7,484	8	551	198	12,830	288	20,865	196	10.6
Maine-----	16	13	26	395	17,853	99	3,758	1	33	495	21,644	74	29.2
Md-----	17	17	32	678	40,122	75	3,165	--	----	753	43,287	180	24.0
Mass-----	11	10	23	456	21,164	78	2,655	--	----	534	23,819	74	32.2
Mich-----	79	67	102	1,741	81,341	1,451	49,075	--	----	3,192	130,416	544	24.0
Minn-----	85	83	202	3,593	122,241	2,372	64,590	--	----	5,965	186,831	1,146	16.3
Miss-----	46	19	23	243	18,698	1	71	50	2,500	294	21,269	242	8.8
Mo-----	76	47	53	472	24,011	144	4,165	--	----	616	28,176	422	6.7
Mont-----	13	6	8	68	3,378	37	1,676	--	----	105	5,054	53	9.5
Nebr-----	62	29	30	375	16,696	83	2,816	43	946	501	20,458	239	8.6
Nev-----	6	2	3	63	6,446	2	1,135	--	----	65	7,581	13	58.3
N. H-----	10	9	17	258	12,332	60	2,210	7	368	325	14,910	41	36.4
N. J-----	14	9	24	437	25,235	39	1,853	--	----	476	27,088	97	27.9
N. Mex---	12	4	6	30	6,244	5	1,613	13	1,404	48	9,261	38	24.4
N. Y-----	54	49	175	3,788	181,758	2,654	95,823	--	----	6,442	277,581	1,109	25.0
N. C-----	81	40	49	759	47,669	37	1,479	69	3,333	865	52,481	210	25.0
N. Dak---	38	16	14	155	6,100	41	820	23	573	219	7,493	196	3.8
Ohio-----	88	80	164	2,230	90,856	1,446	41,000	--	----	3,676	131,856	523	25.2
Okla-----	52	15	20	231	14,163	46	2,357	4	123	281	16,643	168	9.9
Oreg-----	28	16	20	392	26,300	120	3,600	--	----	512	29,900	122	24.5
Pa-----	67	59	190	4,443	179,732	1,337	39,308	--	----	5,780	219,040	767	28.6
P. R-----	4	1	1	7	893	---	---	28	4,439	35	5,332	---	----
R. I-----	5	2	3	45	2,192	---	---	--	----	45	2,192	10	21.9
S. C-----	35	24	24	263	24,880	2	196	12	664	277	25,740	77	33.4
S. Dak---	45	18	20	160	6,650	380	11,600	--	----	540	18,250	213	8.6
Tenn-----	53	42	39	509	30,429	7	226	41	1,213	557	31,868	373	8.5
Tex-----	81	26	30	330	29,050	18	1,116	10	640	358	30,806	402	7.7
Utah-----	22	15	17	399	20,318	33	1,034	--	----	432	21,352	77	27.7
Vt-----	14	28	63	759	39,064	636	27,664	--	----	1,395	66,728	215	31.0
Va-----	81	39	53	984	59,065	58	2,146	3	359	1,045	61,570	250	24.6
Wash-----	32	22	40	540	37,060	36	1,189	--	----	576	38,249	199	19.2
W. Va-----	30	11	16	177	8,791	23	807	60	1,474	260	11,072	79	14.0
Wis-----	69	50	155	2,980	126,362	11,241	349,547	--	----	14,221	475,909	1,989	23.9
Wyo-----	9	5	6	31	1,428	25	1,122	--	----	56	2,550	22	11.6
Total or percent:													
The Natl. Coop. DHI Program	2,109	1,344	2,319	37,683	2,098,919	25,439	825,127	1,001	53,429	64,123	2,977,475	14,123	21.1
All testing programs 2/	---	---	---	---	---	---	---	---	---	65,107	3,030,473	---	21.5

1/ Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service.  
2/ The following number of herds and cows are on other testing programs such as Vocational-Agriculture, commercial, private, etc., by State: Arizona, 68 herds, 12,556 cows; California, 34 herds, 7,541 cows; Colorado, 39 herds, 2,807 cows; Connecticut, 20 herds, 2,000 cows; Michigan, 254 herds, 7,500 cows; New Mexico, 20 herds, 2,880 cows; North Dakota, 54 herds, 1,325 cows; Oklahoma, 23 herds, 800 cows; Oregon, 8 herds, 700 cows; Washington, 14 herds, 939 cows; Wisconsin, 450 herds, 13,950 cows.  
Total = 984 herds, 52,998 cows.

TABLE 2.--Standard DHIA recordkeeping in the United States  
(January 1, 1967)

State	Counties	Herds	Cows	Change from 1-1-66	Av. cows per herd	All milk cows 1/ Thousands	DHIA cows as pct. of all milk cows 2/ Percent	Change from 1-1-66 Percent
	Number	Number	Number	Number	Number			
Ala-----	53	330	30,821	+1,904	93.4	158	19.5	+4.6
Alaska-----	2	4	165	-31	41.3	2	8.3	-1.5
Ariz-----	5	88	16,544	+588	188.0	52	31.8	+0.5
Ark-----	16	79	3,800	+363	48.1	116	3.3	+1.2
Calif-----	42	1,862	362,452	+16,311	194.7	772	46.9	+2.7
Colo-----	15	199	14,253	-1,273	71.6	99	14.4	-2.2
Conn-----	8	412	22,678	+14	55.0	70	32.4	+4.9
Del-----	3	87	4,461	-283	51.3	17	26.2	+4.6
Fla-----	28	121	20,089	+1,071	166.0	179	11.2	+5.5
Ga-----	86	391	31,116	+1,566	79.6	150	20.7	+3.3
Hawaii-----	1	19	4,480	+2,180	235.8	15	29.9	+14.6
Idaho-----	28	547	30,715	+5,732	56.2	162	19.0	+5.0
Ill-----	80	1,451	61,352	+250	42.3	389	15.8	+2.1
Ind-----	83	1,060	43,142	-3,086	40.7	301	14.3	+1.6
Iowa-----	94	1,662	59,470	-170	35.8	657	9.1	+1.0
Kans-----	90	785	35,328	+1,577	45.0	228	15.5	+2.9
Ky-----	72	513	22,048	+48	43.0	396	5.6	+5.5
La-----	25	82	7,484	+1,555	91.3	196	3.8	+4.9
Maine-----	16	395	17,853	-255	45.2	74	24.1	+2.0
Md-----	17	678	40,122	-4,774	59.2	180	22.3	+2.2
Mass-----	11	456	21,164	+396	46.4	74	28.6	+2.3
Mich-----	70	1,741	81,341	-3,893	46.7	544	15.0	+4.9
Minn-----	85	3,593	122,241	-1,862	34.0	1,146	10.7	+6.6
Miss-----	44	243	18,698	+1,461	76.9	242	7.7	+1.3
Mo-----	75	472	24,011	+4,539	50.9	422	5.7	+2.1
Mont-----	6	68	3,378	-105	49.7	53	6.4	+1.0
Nebr-----	52	375	16,696	+1,212	44.5	239	7.0	+1.3
Nev-----	6	63	6,446	+2,320	102.3	13	49.6	+20.1
N. H-----	10	258	12,332	-283	47.8	41	30.1	+8.8
N. J-----	14	437	25,235	-38	57.7	97	26.0	+2.4
N. Mex-----	8	30	6,244	+2,450	208.1	38	16.4	+6.9
N. Y-----	49	3,788	181,758	+1,907	48.0	1,109	16.4	+1.1
N. C-----	81	759	47,669	+1,168	62.8	210	22.7	+2.7
N. Dak-----	33	155	6,100	+571	39.4	196	3.1	+7.7
Ohio-----	88	2,230	90,856	-3,279	40.7	523	17.4	+8.8
Okla-----	48	231	14,163	+1,297	61.3	168	8.4	+1.6
Oreg-----	28	392	26,300	+390	67.1	122	21.6	+1.5
Pa-----	67	4,443	179,732	+4,169	40.5	767	23.4	+1.1
P. R-----	3	7	893	-3,682	127.6	---	---	---
R. I-----	5	45	2,192	-253	48.7	10	21.9	-2.6
S. C-----	34	263	24,880	+2,504	94.6	77	32.3	+6.6
S. Dak-----	32	160	6,650	-92	41.6	213	3.1	+1.1
Tenn-----	53	509	30,429	+1,775	59.8	373	8.2	+1.7
Tex-----	78	330	29,050	+930	88.0	402	7.2	+1.1
Utah-----	18	399	20,318	-673	50.9	77	26.4	+1.7
Vt-----	14	759	39,064	-7,959	51.5	215	18.2	-1.9
Va-----	81	984	59,065	+1,416	60.0	250	23.6	+3.0
Wash-----	32	540	37,060	+10,715	68.6	199	18.6	+6.3
W. Va-----	23	177	8,791	+2,178	49.7	79	11.1	+4.6
Wis-----	69	2,980	126,362	-2,533	42.4	1,989	6.4	+2.2
Wyo-----	5	31	1,428	+294	46.1	22	6.5	+2.0
Total, average, or percent--	1,986	37,683	2,098,919	+40,327	55.7	14,123	14.9	+1.6

1/ Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service.

2/ Percentage of cows included in the Standard (including DHIR) recordkeeping plan.



TABLE 3.--Owner-Sampler recordkeeping in the United States  
(January 1, 1967)

State	Counties	Herds	Cows	Change from 1-1-66	Av. cows per herd	All milk cows 1/	O.S. cows as pct. of all milk cows 2/	Change from 1-1-66
	Number	Number	Number	Number	Number	Thousands	Percent	Percent
Ala-----	3	5	300	-469	60.0	158	0.2	-.2
Alaska-----	1	4	150	+15	37.5	2	7.5	+.7
Ariz-----	--	---	---	-8,852	---	52	---	-17.4
Ark-----	12	96	2,700	+1,060	28.1	116	2.3	+1.3
Calif-----	19	142	8,886	-13,026	62.6	772	1.2	-1.6
Colo-----	6	15	730	-223	48.7	99	.7	-.2
Conn-----	8	83	3,302	-1,523	39.8	70	4.7	-2.0
Del-----	2	10	246	-67	24.6	17	1.4	0
Fla-----	5	6	2,068	+626	344.7	179	1.2	+.4
Ga-----	2	6	385	+154	64.2	150	.3	+.2
Hawaii-----	1	1	26	+26	26.0	15	.2	+.2
Idaho-----	12	21	601	+214	28.6	162	.4	+.2
Ill-----	30	400	13,215	-673	33.0	389	3.4	+.3
Ind-----	17	442	29,555	+19,248	66.9	301	9.8	+7.0
Iowa-----	88	1,445	37,045	-2,000	25.6	657	5.6	+.3
Kans-----	30	125	3,976	+371	31.8	228	1.7	+.4
Ky-----	27	44	1,575	+18	35.8	396	.4	0
La-----	3	8	551	-562	68.9	196	.3	-.2
Maine-----	12	99	3,758	-8	38.0	74	5.1	+.5
Md-----	8	75	3,165	-779	42.2	180	1.8	-.1
Mass-----	8	78	2,655	-13	34.0	74	3.6	+.2
Mich-----	73	1,451	49,075	-6,629	33.8	544	9.0	-.2
Minn-----	84	2,372	64,590	+3,941	27.2	1,146	5.6	+.7
Miss-----	1	1	71	-37	71.0	242	---	---
Mo-----	27	144	4,165	+2,348	28.9	422	1.0	+.7
Mont-----	6	37	1,676	-1,800	45.3	53	3.2	-2.1
Nebr-----	20	83	2,816	-84	33.9	239	1.2	+.1
Nev-----	2	2	1,135	-34	567.5	13	8.7	+.3
N. H-----	10	60	2,210	-270	36.8	41	5.4	-.4
N. J-----	9	39	1,853	+3	47.5	97	1.9	+.2
N. Mex-----	2	5	1,613	-23	322.6	38	4.2	+.1
N. Y-----	54	2,654	95,823	-3,032	36.1	1,109	8.6	+.2
N. C-----	19	37	1,479	-294	40.0	210	.7	-.1
N. Dak-----	18	41	820	-238	20.0	196	.4	-.1
Ohio-----	80	1,446	41,000	+903	28.4	523	7.8	+.7
Okla-----	21	46	2,357	+1,245	51.2	168	1.4	+.8
Oreg-----	28	120	3,600	-30	30.0	122	3.0	+.2
Pa-----	61	1,337	39,308	+1,194	29.4	767	5.1	+.3
P. R-----	--	---	---	---	---	---	---	---
R. I-----	--	---	---	-19	---	10	---	-.2
S. C-----	2	2	196	+149	98.0	77	.3	+.2
S. Dak-----	45	380	11,600	+3,336	30.5	213	5.4	+1.7
Tenn-----	5	7	226	+55	32.3	373	.1	+.1
Tex-----	8	18	1,116	+316	62.0	402	.3	+.1
Utah-----	6	33	1,034	-113	31.3	77	1.3	0
Vt-----	14	636	27,664	+8,186	43.5	215	12.9	+4.6
Va-----	12	58	2,146	+328	37.0	250	.9	+.3
Wash-----	12	36	1,189	+223	33.0	199	.6	+.1
W. Va-----	6	23	807	+161	35.1	79	1.0	+.4
Wis-----	69	11,241	349,547	-17,656	31.1	1,989	17.6	-.1
Wyo-----	4	25	1,122	-377	44.9	22	5.1	-.9
Total, average, or percent--	992	25,439	825,127	-14,711	32.4	14,123	5.8	+.4

1/ Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service.

2/ Percentage of cows included in the Owner-Sampler recordkeeping plan.

TABLE 4.--Weigh-a-Day-a-Month recordkeeping in the United States  
(January 1, 1967)

State	Counties	Herds	Cows	Change from 1-1-66	Av. cows per herd	All milk cows 1/	WADAM cows as pct. of all milk cows 2/	Change from 1-1-66
	Number	Number	Number	Number	Number	Thousands	Percent	Percent
Ala-----	13	18	1,246	-231	69.2	158	0.8	0
Alaska-----	--	--	----	----	----	2	----	----
Ariz-----	--	--	----	----	----	52	----	----
Ark-----	3	15	500	+140	33.3	116	.4	+2
Calif-----	--	--	----	----	----	772	----	----
Colo-----	--	--	----	----	----	99	----	----
Conn-----	--	--	----	----	----	70	----	----
Del-----	1	3	54	-2	18.0	17	.3	0
Fla-----	9	18	5,358	+654	297.7	179	3.0	+4
Ga-----	18	42	4,838	-950	115.2	150	3.2	-.2
Hawaii-----	--	--	----	-132	----	15	----	-.9
Idaho-----	--	--	----	----	----	162	----	----
Ill-----	40	274	8,151	+574	29.7	389	2.1	+4
Ind-----	--	--	----	----	----	301	----	----
Iowa-----	--	--	----	-250	----	657	----	----
Kans-----	5	10	300	0	30.0	228	.1	0
Ky-----	35	59	2,083	+238	35.3	396	.5	+1
La-----	24	198	12,830	+2,363	64.8	196	6.5	+1.3
Maine-----	1	1	33	-167	33.0	74	----	-.2
Md-----	--	--	----	----	----	180	----	----
Mass-----	--	--	----	----	----	74	----	----
Mich-----	--	--	----	----	----	544	----	----
Minn-----	--	--	----	----	----	1,146	----	----
Miss-----	8	50	2,500	-500	50.0	242	1.0	-.1
Mo-----	--	--	----	-2,693	----	422	----	-.5
Mont-----	--	--	----	----	----	53	----	----
Nebr-----	17	43	946	+646	22.0	239	.4	+3
Nev-----	--	--	----	----	----	13	----	----
N. H-----	2	7	368	+215	52.6	41	.9	+5
N. J-----	--	--	----	-165	----	97	----	-.2
N. Mex-----	4	13	1,404	-691	108.0	38	3.7	-1.5
N. Y-----	--	--	----	----	----	1,109	----	----
N. C-----	31	69	3,333	-867	48.3	210	1.6	-.2
N. Dak-----	18	23	573	-779	24.9	196	.3	-.3
Ohio-----	--	--	----	-154	----	523	----	----
Okla-----	2	4	123	-115	30.8	168	.1	0
Oreg-----	--	--	----	-150	----	122	----	-.1
Pa-----	--	--	----	----	----	767	----	----
P. R-----	4	28	4,439	-81	158.5	----	----	----
R. I-----	--	--	----	----	----	10	----	----
S. C-----	4	12	664	+19	55.3	77	.9	+2
S. Dak-----	--	--	----	----	----	213	----	----
Tenn-----	18	41	1,213	-414	29.6	373	.3	-.1
Tex-----	4	10	640	-50	64.0	402	.2	0
Utah-----	--	--	----	----	----	77	----	----
Vt-----	--	--	----	----	----	215	----	----
Va-----	3	3	359	+24	119.7	250	.1	0
Wash-----	--	--	----	----	----	199	----	----
W. Va-----	18	60	1,474	-10	24.6	79	1.9	+4
Wis-----	--	--	----	----	----	1,989	----	----
Wyo-----	--	--	----	----	----	22	----	----
Total, average, or percent--	282	1,001	53,429	-3,528	53.4	14,123	.4	0

1/ Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service.

2/ Percentage of cows included in the Weigh-a-Day-a-Month recordkeeping plan.

TABLE 5.--Herds and cows enrolled in State and regional computing centers  
(January 1, 1967)

State	Standard DHIA (Incl. DHIR)				Dairy Herd Improvement Registry		Owner-Sampler		Total machine processing 1/		Machine-processing as percent of total recordkeeping 1/	
	Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows
	Number	Number	Pct. 2/	Pct. 2/	Number	Number	Number	Number	Number	Number	Pct.	Pct.
Ala-----	330	30,821	100.0	100.0	14	1,164	5	300	335	31,121	94.9	96.2
Alaska----	4	165	100.0	100.0	2	65	4	150	8	315	100.0	100.0
Ariz-----	39	5,729	44.3	34.6	16	2,621	---	---	39	5,729	44.3	34.6
Ark-----	79	3,800	100.0	100.0	14	700	96	2,700	175	6,500	92.1	92.9
Calif-----	319	78,839	17.1	21.8	89	17,208	2	328	321	79,167	16.0	21.3
Colo-----	199	14,253	100.0	100.0	35	2,100	15	730	214	14,983	100.0	100.0
Conn-----	412	22,678	100.0	100.0	84	4,566	80	3,156	492	25,834	99.4	99.4
Del-----	87	4,461	100.0	100.0	8	454	10	246	97	4,707	97.0	98.9
Fla-----	121	20,089	100.0	100.0	10	1,497	4	1,758	125	21,847	86.2	79.4
Ga-----	391	31,116	100.0	100.0	33	3,223	6	385	424	34,976	96.6	96.2
Hawaii-----	15	3,832	78.9	85.5	--	---	1	26	16	3,858	80.0	85.6
Idaho-----	509	28,839	93.1	93.9	43	2,187	21	601	530	29,440	93.3	94.0
Ill-----	1,451	61,352	100.0	100.0	165	7,358	245	8,064	1,827	73,699	86.0	89.1
Ind-----	1,060	43,142	100.0	100.0	191	7,377	79	2,804	1,139	45,946	75.8	63.2
Iowa-----	1,662	59,470	100.0	100.0	227	7,988	1,246	32,019	2,908	91,489	93.6	94.8
Kans-----	785	35,328	100.0	100.0	125	4,005	125	3,976	910	39,304	98.9	99.2
Ky-----	513	22,048	100.0	100.0	55	2,200	44	1,575	565	23,943	91.7	93.1
La-----	77	6,854	93.9	91.6	10	1,216	8	551	283	20,235	98.3	97.0
Maine-----	395	17,853	100.0	100.0	61	3,369	99	3,758	494	21,611	99.8	99.8
Md-----	678	40,122	100.0	100.0	100	7,003	75	3,165	753	43,287	100.0	100.0
Mass-----	456	21,164	100.0	100.0	89	4,533	70	2,421	526	23,585	98.5	99.0
Mich-----	1,741	81,341	100.0	100.0	188	10,554	1,451	49,075	3,192	130,416	100.0	100.0
Minn-----	3,334	113,774	92.8	93.1	183	7,064	2,178	58,993	5,512	172,767	92.4	92.5
Miss-----	243	18,698	100.0	100.0	28	2,122	1	71	250	19,143	85.0	90.0
Mo-----	472	24,011	100.0	100.0	80	4,678	144	4,165	616	28,176	100.0	100.0
Mont-----	56	2,695	82.4	79.8	11	558	37	1,676	93	4,371	88.6	86.5
Nebr-----	370	16,520	98.7	98.9	57	2,947	83	2,816	453	19,336	90.4	94.5
Nev-----	37	4,035	58.7	62.6	9	808	2	1,135	39	5,170	60.0	68.2
N. H-----	258	12,332	100.0	100.0	58	2,881	39	1,450	304	14,150	93.5	94.9
N. J-----	437	25,235	100.0	100.0	57	4,218	39	1,853	476	27,088	100.0	100.0
N. Mex-----	30	6,244	100.0	100.0	12	2,498	1	70	31	6,314	64.6	68.2
N. Y-----	3,788	181,758	100.0	100.0	399	21,000	2,389	86,240	6,177	267,998	95.9	96.5
N. C-----	759	47,669	100.0	100.0	90	7,108	37	1,479	865	52,481	100.0	100.0
N. Dak-----	153	5,599	98.7	91.8	17	687	27	625	201	6,752	91.8	90.1
Ohio-----	2,230	90,856	100.0	100.0	423	18,333	421	12,343	2,651	103,199	72.1	78.3
Okla-----	231	14,163	100.0	100.0	49	2,922	46	2,357	277	16,520	98.6	99.3
Oreg-----	307	23,500	78.3	89.4	42	3,000	80	2,500	387	26,000	75.6	87.0
Pa-----	4,443	179,732	100.0	100.0	282	12,408	1,337	39,308	5,780	219,040	100.0	100.0
P. R-----	7	893	100.0	100.0	--	---	---	---	7	893	20.0	16.7
R. I-----	45	2,192	100.0	100.0	23	953	---	---	45	2,192	100.0	100.0
S. C-----	263	24,880	100.0	100.0	50	4,875	2	196	265	25,076	95.7	97.4
S. Dak-----	160	6,650	100.0	100.0	26	1,236	155	4,571	315	11,221	58.3	61.5
Tenn-----	509	30,429	100.0	100.0	65	4,673	7	226	523	30,942	93.9	97.1
Tex-----	315	27,872	95.5	95.9	67	5,092	18	1,116	337	29,206	94.1	94.8
Utah-----	399	20,318	100.0	100.0	27	1,532	33	1,034	432	21,352	100.0	100.0
Vt-----	759	39,064	100.0	100.0	100	4,900	219	8,456	978	47,520	70.1	71.2
Va-----	984	59,065	100.0	100.0	101	6,774	58	2,146	1,045	61,570	100.0	100.0
Wash-----	540	37,060	100.0	100.0	101	6,523	36	1,189	576	38,249	100.0	100.0
W. Va-----	165	8,189	93.2	93.2	19	1,152	21	778	246	10,441	94.6	94.3
Wis-----	2,980	126,362	100.0	100.0	505	22,906	8,860	274,463	11,840	400,825	83.3	84.2
Wyo-----	31	1,428	100.0	100.0	5	210	25	1,122	56	2,550	100.0	100.0
Total or percent	35,628	1,784,519	94.5	85.0	4,445	245,446	19,981	630,166	56,150	2,442,534	87.6	82.0

1/ Includes WADAM testing: Georgia, 27 herds, 3,475 cows; Illinois, 131 herds, 4,283 cows; Kentucky, 8 herds, 320 cows; Louisiana, 198 herds, 12,830 cows; Mississippi, 6 herds, 374 cows; New Hampshire, 7 herds, 368 cows; North Carolina, 69 herds, 3,333 cows; North Dakota, 21 herds, 528 cows; Tennessee, 7 herds, 287 cows; Texas, 4 herds, 218 cows; Virginia, 3 herds, 359 cows; West Virginia, 60 herds, 1,474 cows.  
Total = 541 herds, 27,849 cows.

2/ Percent of Standard DHIA and DHIR herds or cows enrolled in machine processing.

TABLE 6.--Status of Dairy Herd Improvement Association work in the United States  
(1906-1967, inclusive)

Year	Associa- tions <sup>1/</sup>	Super- visors <sup>1/</sup>	Standard Plan							
			Herds	Cows	Cows per herd	Herds reported	Average production			
							Cows reported	Milk	Milk fat	Milk fat
	Number	Number	Number	Number	Number	Number	Number	Pounds	Percent	Pounds
1906---	1	-----	31	239	7.7	-----	-----	5,300	4.06	215
1907---	4	-----	-----	1,606	-----	-----	-----	5,366	4.10	220
1908---	6	-----	-----	3,921	-----	-----	-----	-----	-----	---
1909---	25	-----	-----	11,921	-----	-----	-----	-----	-----	---
1910---	40	-----	-----	2/25,000	-----	-----	-----	2/5,730	3.96	2/227
1911---	64	-----	-----	2/40,000	-----	-----	-----	-----	-----	---
1912---	82	-----	-----	2/43,000	-----	-----	-----	-----	-----	---
1913---	100	-----	-----	47,150	-----	-----	-----	-----	-----	---
1914---	163	-----	-----	73,280	-----	-----	-----	-----	-----	---
1915---	211	-----	-----	105,526	-----	-----	-----	-----	-----	---
1916---	346	-----	-----	150,677	-----	-----	-----	-----	-----	---
1917---	459	-----	11,720	216,831	18.5	-----	-----	-----	-----	---
1918---	353	-----	9,778	172,518	17.6	-----	-----	-----	-----	---
1919---	385	-----	10,000	167,313	16.7	-----	-----	-----	-----	---
1920---	468	-----	11,948	203,472	17.0	-----	-----	6,175	4.00	247
1921---	452	-----	11,209	193,928	17.3	-----	-----	-----	-----	---
1922---	513	-----	12,508	215,321	17.2	-----	-----	-----	-----	---
1923---	627	-----	16,357	277,010	16.9	-----	-----	-----	-----	---
1924 <sup>3/</sup>	---	-----	-----	-----	-----	-----	-----	-----	-----	---
1925---	732	-----	18,677	307,073	16.4	-----	42,302	7,189	3.95	284
1926---	777	-----	19,540	327,653	16.8	-----	103,443	7,331	3.96	290
1927---	837	-----	21,128	362,014	17.1	-----	116,509	7,411	3.95	293
1928---	947	-----	23,327	414,891	17.8	-----	152,412	7,476	3.96	296
1929---	1,090	-----	26,182	465,804	17.8	-----	194,859	7,498	3.97	298
1930---	1,143	-----	27,888	507,549	18.2	-----	235,624	7,642	3.96	303
1931---	1,112	-----	26,308	510,714	19.4	-----	219,924	7,812	3.92	306
1932---	1,005	-----	20,351	427,044	21.0	-----	186,683	7,858	3.95	310
1933---	881	-----	15,447	358,501	23.2	-----	163,014	7,849	3.99	313
1934---	793	-----	13,694	325,837	23.8	-----	203,930	8,015	4.02	322
1935---	809	-----	15,573	364,218	23.4	-----	200,367	7,977	4.04	322
1936---	876	-----	17,344	404,412	23.3	-----	257,248	7,912	4.03	319
1937---	992	-----	20,772	496,562	23.9	-----	354,568	7,923	4.04	320
1938---	1,106	-----	23,701	558,993	23.6	-----	448,025	7,831	4.05	317
1939---	1,228	-----	25,949	625,284	24.1	-----	507,563	7,977	4.05	323
1940---	1,300	-----	27,948	676,141	24.2	-----	545,382	8,133	4.07	331
1941---	1,383	-----	31,381	763,502	24.3	-----	591,103	8,225	4.07	335
1942---	1,421	-----	32,957	816,117	24.8	-----	514,758	8,323	4.07	339
1943---	1,057	-----	24,155	616,972	25.5	-----	375,914	8,325	4.06	338
1944---	954	-----	20,825	561,587	27.0	-----	383,337	8,296	4.05	336
1945---	949	-----	21,254	577,200	27.2	-----	384,360	8,592	4.03	346
1946---	1,124	-----	23,331	627,878	27.0	-----	413,554	8,635	4.04	349
1947---	1,426	-----	28,812	775,546	26.9	-----	533,061	8,638	4.03	348
1948---	1,668	-----	33,274	886,129	26.6	-----	620,385	8,675	4.03	350
1949---	1,787	-----	35,851	943,939	26.3	-----	729,150	8,907	4.03	359
1950---	1,973	-----	40,100	1,088,872	27.2	-----	836,922	9,172	4.03	370
1951---	2,143	-----	42,949	1,186,615	27.6	-----	885,859	9,195	4.02	370
1952---	2,109	-----	40,105	1,166,297	29.1	-----	928,376	9,192	3.98	366
1953---	2,151	-----	40,983	1,226,588	29.9	-----	1,020,326	9,253	3.98	368
1954---	2,175	-----	41,254	1,311,698	31.8	-----	1,079,557	9,363	3.97	372
1955---	2,288	-----	41,240	1,333,866	32.3	-----	1,175,378	9,502	3.95	375
1956---	2,266	-----	40,984	1,406,306	34.4	-----	1,229,971	9,713	3.94	383
1957 <sup>4/</sup>	1,700	2,310	41,638	1,479,799	35.5	-----	1,256,129	9,894	3.93	389
1958---	1,544	2,293	39,985	1,548,884	38.7	-----	1,345,750	10,068	3.91	394
1959---	1,500	2,337	40,284	1,607,538	39.9	-----	1,406,665	10,327	3.88	401
1960---	1,509	2,397	41,293	1,746,752	42.3	-----	5/1,343,725	5/10,561	3.87	5/409
1961---	1,395	2,448	42,558	1,867,469	43.9	28,649	1,280,785	10,796	3.87	418
1962---	1,436	2,472	42,034	1,958,355	46.6	32,794	1,531,826	11,032	3.86	426
1963---	1,441	2,516	41,937	2,006,534	47.8	35,378	1,674,803	11,286	3.85	434
1964---	1,420	2,474	40,670	2,010,144	49.4	35,689	1,746,475	11,685	3.83	447
1965---	1,424	2,439	40,075	2,087,581	52.1	35,604	1,821,252	11,976	3.82	457
1966---	1,418	2,378	38,879	2,058,592	52.9	34,886	1,852,533	12,127	3.81	462
1967---	1,344	2,319	37,683	2,098,919	55.7	-----	-----	-----	-----	---

<sup>1/</sup> Number of associations and supervisors include all plans.

<sup>2/</sup> Estimated.

<sup>3/</sup> Date for collecting data changed in 1924 from July 1 to January 1.

<sup>4/</sup> Prior to 1957 associations were counted on the basis of supervisor circuits.

<sup>5/</sup> National testing year changed in 1960 to begin May 1. These values are averages of 1959 and 1961.



TABLE 7.--Ten-year production summary: U.S. cows and DHIA cows (1957-1966)

Year <sup>1/</sup>	U.S. report for all milk cows <sup>2/</sup>					Standard DHIA Plan			
	Milk cows	Milk produced	Production/cow			Cows	Production/cow		
			Milk	Milk fat	Milk fat		Milk	Milk fat	Milk fat
	Thousands	Mil. lb.	Pounds	Percent	Pounds	Number	Pounds	Percent	Pounds
1957-----	19,774	124,628	6,303	3.81	240	1,548,884	9,894	3.93	389
1958-----	18,711	123,220	6,585	3.78	249	1,607,538	10,068	3.91	394
1959-----	17,901	121,989	6,815	3.76	256	1,746,752	10,327	3.88	401
1960-----	17,515	123,109	7,029	3.76	264	1,867,469	3/10,561	3.87	3/409
1961-----	17,243	125,707	7,290	3.74	273	1,958,355	10,796	3.87	418
1962-----	16,842	126,251	7,496	3.74	280	2,006,534	11,032	3.86	426
1963-----	16,260	125,202	7,770	3.71	286	2,010,144	11,286	3.85	434
1964-----	15,677	126,967	8,099	3.70	300	2,087,581	11,685	3.83	447
1965-----	14,954	124,173	8,304	3.71	308	2,058,592	11,976	3.82	457
1966-----	4/14,123	4/120,230	4/8,513	3.70	4/315	2,098,919	12,127	3.81	462

<sup>1/</sup> Based on succeeding January 1 reports of cows on test in the National Cooperative Dairy Herd Improvement Program.

<sup>2/</sup> Revised estimates of number of milk cows and milk production for 1960-65 as reported by the Statistical Reporting Service (USDA), in "Milk Production and Dairy Products, Annual Statistical Summary 1966," February 1967.

<sup>3/</sup> National testing year changed in 1960 to begin May 1. These values are averages of 1959 and 1961.

<sup>4/</sup> Statistical Reporting Service (USDA), "Milk Production and Dairy Products, Annual Statistical Summary 1966," February 1967. Data are preliminary.

TABLE 8.--Eleven-year summary of the National Cooperative Dairy Herd Improvement Program: U.S. cows and DHIA cows (1956-1966)

Year <sup>1/</sup>	Standard Plan		Owner-Sampler Plan		Weigh-a-Day-a-Month Plan		Milk cows in U. S.	
	Cows on test	Proportion of U.S. cows	Cows on test	Proportion of U.S. cows	Cows on test	Proportion of U.S. cows	Cows <sup>2/</sup>	Proportion of U.S. cows
	Number	Percent	Number	Percent	Number	Percent	Thousands	Percent
1956-----	1,479,799	7.22	405,090	1.98	21,297	0.10	20,501	9.3
1957-----	1,548,884	7.83	490,001	2.48	79,489	.40	19,774	10.7
1958-----	1,607,538	8.59	549,916	2.94	74,814	.40	18,711	11.9
1959-----	1,746,752	9.76	615,899	3.44	76,392	.43	17,901	13.6
1960-----	1,867,469	10.66	655,885	3.74	70,847	.40	17,515	14.8
1961-----	1,958,355	11.36	698,302	4.05	70,617	.41	17,243	15.8
1962-----	2,006,534	11.91	726,478	4.31	50,492	.30	16,842	16.5
1963-----	2,010,144	12.36	752,229	4.63	60,149	.37	16,260	17.4
1964-----	2,087,581	13.32	818,406	5.22	56,570	.36	15,677	18.9
1965-----	2,058,592	13.77	839,838	5.62	56,957	.38	14,954	19.8
1966-----	2,098,919	14.86	825,127	5.84	53,429	.38	14,123	21.1

<sup>1/</sup> Based on succeeding January 1 reports of cows on test in the National Cooperative Dairy Herd Improvement Program.

<sup>2/</sup> Average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service (USDA). See footnote 1, table 7.



TABLE 9.--Counties, by State, with 40 percent or more cows included in the National Cooperative Dairy Herd Improvement Program--January 1, 1967

State and county	Cows enrolled in DHIA plans	State and county	Cows enrolled in DHIA plans	State and county	Cows enrolled in DHIA plans
	Percent		Percent		Percent
<b>ALABAMA</b>		<b>GEORGIA</b>		<b>MASSACHUSETTS</b>	
Talladega-----	41	Douglas-----	95	Berkshire-----	41
Ellmore-----	40	Echols-----	95	50% of the counties have 25%	
12% of the counties have 25%		Houston-----	78	or more of their cows on test.	
or more of their cows on test.		Macon-----	75		
<b>ARIZONA</b>		Jeff Davis-----	74	<b>MICHIGAN</b>	
Pima-----	100	Mitchell-----	72	Barry-----	46
Pinal-----	77	Peach-----	72	Ingham-----	44
Cochise-----	65	Clarke-----	63	Jackson-----	43
Maricopa-----	62	Clayton-----	62	Calhoun-----	41
Graham-----	56	Dooley-----	62	Kalamazoo-----	41
36% of the counties have 25%		Newton-----	62	33% of the counties have 25%	
or more of their cows on test.		Fayette-----	50	or more of their cows on test.	
<b>CALIFORNIA</b>		Walton-----	49		
Contra Costa-----	98	Coffee-----	48	<b>MINNESOTA</b>	
Kern-----	84	Schley-----	47	9% of the counties have 25%	
Monterey-----	82	Tattnall-----	47	or more of their cows on test.	
Tehama-----	71	Jones-----	45		
Marin-----	70	De Kalb-----	44	<b>MISSISSIPPI</b>	
San Diego-----	70	Butts-----	43	Washington-----	62
Santa Barbara-----	69	Dougherty-----	43	4% of the counties have 25%	
Madera-----	68	McDuffie-----	43	or more of their cows on test.	
Ventura-----	68	Jefferson-----	41		
Fresno-----	62	Rockdale-----	41	<b>MISSOURI</b>	
Placer-----	62	Thomas-----	41	2% of the counties have 25%	
San Joaquin-----	60	Carroll-----	40	or more of their cows on test.	
Sonoma-----	60	25% of the counties have 25%			
Tulare-----	54	or more of their cows on test.		<b>MONTANA</b>	
Stanislaus-----	52	<b>HAWAII</b>		2% of the counties have 25%	
Riverside-----	51	20% of the counties have 25%		or more of their cows on test.	
Sacramento-----	51	or more of their cows on test.			
San Luis Obispo-----	50	<b>ILLINOIS</b>		<b>NEBRASKA</b>	
San Benito-----	49	Champaign-----	42	4% of the counties have 25%	
Merced-----	46	Lawrence-----	41	or more of their cows on test.	
Del Norte-----	44	Moultrie-----	40		
Santa Clara-----	44	19% of the counties have 25%		<b>NEVADA</b>	
Napa-----	42	or more of their cows on test.		Clark-----	100
Sutter-----	42			Lincoln-----	100
Kings-----	40	<b>INDIANA</b>		Churchill-----	48
San Bernardino-----	40	Hancock-----	44	24% of the counties have 25%	
57% of the counties have 25%		Boone-----	41	or more of their cows on test.	
or more of their cows on test.		7% of the counties have 25%		<b>NEW HAMPSHIRE</b>	
<b>COLORADO</b>		or more of their cows on test.		Sullivan-----	42
Chaffee-----	63			Merrimack-----	40
Mesa-----	52	<b>IOWA</b>		90% of the counties have 25%	
11% of the counties have 25%		Dallas-----	41	or more of their cows on test.	
or more of their cows on test.		11% of the counties have 25%		<b>NEW JERSEY</b>	
<b>CONNECTICUT</b>		or more of their cows on test.		33% of the counties have 25%	
Hartford-----	45	<b>KANSAS</b>		or more of their cows on test.	
Litchfield-----	45	Comanche-----	49		
Windham-----	44	Saline-----	49	<b>NEW MEXICO</b>	
Tolland-----	42	Finney-----	41	Dona Ana-----	72
New Haven-----	40	13% of the counties have 25%		Sierra-----	64
88% of the counties have 25%		or more of their cows on test.		16% of the counties have 25%	
or more of their cows on test.		<b>LOUISIANA</b>		or more of their cows on test.	
<b>DELAWARE</b>		West Carroll-----	63	<b>NEW YORK</b>	
33% of the counties have 25%		Morehouse-----	52	Dutchess-----	50
or more of their cows on test.		Franklin-----	49	Columbia-----	45
<b>FLORIDA</b>		Iberia-----	40	Suffolk-----	45
Orange-----	70	17% of the counties have 25%		Tompkins-----	45
Manatee-----	66	or more of their cows on test.		Ontario-----	40
Gilchrist-----	65	<b>MAINE</b>		46% of the counties have 25%	
Osceola-----	62	Oxford-----	45	or more of their cows on test.	
Washington-----	62	44% of the counties have 25%		<b>NORTH CAROLINA</b>	
Union-----	57	or more of their cows on test.		Carteret-----	100
Jackson-----	54			Lee-----	100
Putnam-----	53	<b>MARYLAND</b>		Swain-----	100
Alachua-----	52	Dorchester-----	46	Hyde-----	88
Seminole-----	45	Allegany-----	45	Columbus-----	86
Madison-----	44	43% of the counties have 25%		Harnett-----	84
Lake-----	43	or more of their cows on test.		Perquimans-----	77
Jefferson-----	42			Pitt-----	72
25% of the counties have 25%					
or more of their cows on test.					

TABLE 9.--Counties, by State, with 40 percent or more cows included in the National Cooperative Dairy Herd Improvement Program--January 1, 1967--Continued

State and county	Cows enrolled in DHIA plans	State and county	Cows enrolled in DHIA plans
	Percent		Percent
<b>NORTH CAROLINA (contd.)</b>		<b>SOUTH CAROLINA (contd.)</b>	
Macon-----	66	Newberry-----	48
Duplin-----	65	Lee-----	45
Durham-----	65	Saluda-----	44
Pender-----	64	Barnwell-----	42
Nash-----	63	Beaufort-----	41
Wake-----	63	Marlboro-----	41
Person-----	62	39% of the counties have 25% or more of their cows on test.	
Beaufort-----	61		
Brunswick-----	61	<b>SOUTH DAKOTA</b>	
Onslow-----	61	4% of the counties have 25% or more of their cows on test.	
Orange-----	59		
Lenoir-----	58	<b>TENNESSEE</b>	
Moore-----	57	Dyer-----	85
Jones-----	55	5% of the counties have 25% or more of their cows on test.	
Guilford-----	54		
Gaston-----	53	<b>TEXAS</b>	
Wayne-----	53	Deaf Smith-----	75
Caswell-----	52	Goliad-----	75
Franklin-----	52	Hutchinson-----	75
New Hanover-----	52	San Patricio-----	75
Bertie-----	50	Starr-----	75
Warren-----	50	Milam-----	65
Washington-----	50	Willacy-----	63
Bladen-----	49	Burleson-----	62
Craven-----	47	Scurry-----	45
Granville-----	45	7% of the counties have 25% or more of their cows on test.	
Madison-----	45		
Wilson-----	45	<b>UTAH</b>	
Montgomery-----	44	Salt Lake-----	53
Robeson-----	43	Wasatch-----	52
Scotland-----	43	Summit-----	44
Edgecombe-----	42	Washington-----	43
Hoke-----	42	45% of the counties have 25% or more of their cows on test.	
Pamlico-----	41		
Catawba-----	40	<b>VERMONT</b>	
Chatham-----	40	Washington-----	46
66% of the counties have 25% or more of their cows on test.		Bennington-----	45
<b>OHIO</b>		Addison-----	44
Marion-----	47	Windsor-----	44
Erie-----	41	71% of the counties have 25% or more of their cows on test.	
Auglaize-----	41		
Clark-----	40	<b>VIRGINIA</b>	
44% of the counties have 25% or more of their cows on test.		City of Hampton-----	100
<b>OKLAHOMA</b>		City of Newport News-----	100
4% of the counties have 25% or more of their cows on test.		James City-----	87
<b>OREGON</b>		Lancaster-----	62
Klamath-----	40	Northampton-----	60
28% of the counties have 25% or more of their cows on test.		Bath-----	53
<b>PENNSYLVANIA</b>		Isle of Wight-----	51
Montgomery-----	50	Roanoke-----	50
Blair-----	48	Culpeper-----	48
Union-----	43	Prince George-----	48
Mifflin-----	42	Henrico-----	47
Clinton-----	41	Orange-----	44
Dauphin-----	41	Pulaski-----	44
Bucks-----	40	Dinwiddie-----	43
Huntingdon-----	40	City of Chesapeake-----	42
Juniata-----	40	Loudoun-----	42
Northumberland-----	40	Charlotte-----	40
60% of the counties have 25% or more of their cows on test.		44% of the counties have 25% or more of their cows on test.	
<b>RHODE ISLAND</b>			
40% of the counties have 25% or more of their cows on test.		<b>WASHINGTON</b>	
<b>SOUTH CAROLINA</b>		23% of the counties have 25% or more of their cows on test.	
Bamberg-----	63		
Orangeburg-----	60	<b>WEST VIRGINIA</b>	
Sumter-----	59	6% of the counties have 25% or more of their cows on test.	
Calhoun-----	54		
Colleton-----	54	<b>WISCONSIN</b>	
Kershaw-----	54	Kenosha-----	41
Hampton-----	51	Winnebago-----	40
		29% of the counties have 25% or more of their cows on test.	

TABLE 10.--Production records reported to the USDA for quarterly evaluations in 1966 <sup>1/</sup>

State	DHIA cows on test 1-1-66	1966 production records					1965 production records	
		Hand recorded (718 cards)	Punched (1095 cards) <u>2/</u>	Magnetic tape	Total			
	Number	Number	Number	Number	Number	Percent <u>3/</u>	Number	Percent <u>3/</u>
Ala-----	28,917	---	25,955	---	25,955	89.8	25,742	97.1
Alaska-----	196	---	---	188	188	95.9	225	58.4
Ariz-----	15,956	---	4,745	---	4,745	29.7	3,631	18.0
Ark-----	3,437	---	40	3,515	3,555	103.4	4,061	129.0
Calif-----	346,141	1,905	72,215	---	74,120	21.4	59,570	17.0
Colo-----	15,526	---	8,011	---	8,011	51.6	5,569	38.6
Conn-----	22,664	7	76	27,257	27,340	120.6	23,016	101.5
Del-----	4,744	---	70	5,988	6,058	127.7	4,675	110.4
Fla-----	19,018	386	16,860	---	17,246	90.7	13,914	76.9
Ga-----	29,550	28	26,975	---	27,003	91.4	25,589	89.8
Hawaii-----	2,300	---	---	873	873	38.0	333	16.9
Idaho-----	24,983	503	1,506	18,632	20,641	82.6	13,602	50.2
Ill-----	61,102	50	57,815	---	57,865	94.7	57,122	88.9
Ind-----	46,228	---	28,240	16,992	45,232	97.8	55,577	128.1
Iowa-----	59,640	68	15	62,632	62,715	105.2	65,306	105.8
Kans-----	33,751	112	13	36,016	36,141	107.1	35,106	110.9
Ky-----	22,000	37	20,083	---	20,120	91.5	19,879	95.0
La-----	5,929	147	4,571	---	4,718	79.6	4,223	86.5
Maine-----	18,108	36	17	22,917	22,970	126.9	19,155	96.0
Md-----	44,896	487	40,853	65	41,405	92.2	37,419	85.1
Mass-----	20,768	306	82	26,283	26,671	128.4	22,677	102.3
Mich-----	85,234	---	79,607	---	79,607	93.4	114,115	125.8
Minn-----	124,103	---	119,501	---	119,501	96.3	104,451	82.6
Miss-----	17,237	1	15,067	---	15,068	87.4	13,069	97.5
Mo-----	19,472	55	176	21,604	21,835	112.1	18,836	75.0
Mont-----	3,483	---	2,182	---	2,182	62.6	1,945	49.3
Nebr-----	15,484	3	43	15,469	15,515	100.2	15,085	104.8
Nev-----	4,126	---	2,402	---	2,402	58.2	1,915	49.8
N. H-----	12,615	---	41	16,131	16,172	128.2	13,048	110.0
N. J-----	25,273	181	489	32,866	33,536	132.7	25,251	83.8
N. Mex-----	3,794	---	3,455	---	3,455	91.1	2,325	54.3
N. Y-----	179,851	---	3	240,590	240,593	133.8	186,596	107.6
N. C-----	46,501	---	43,628	---	43,628	93.8	46,185	104.3
N. Dak-----	5,529	136	---	5,802	5,938	107.4	6,604	110.0
Ohio-----	94,135	---	62,067	33,281	95,348	101.3	111,063	124.0
Okla-----	12,866	---	1	12,614	12,615	98.0	11,472	102.0
Oreg-----	25,910	---	135	17,585	17,720	68.4	16,054	59.0
Pa-----	175,563	---	650	168,864	169,514	96.6	211,128	120.4
P. R-----	4,575	---	---	---	---	---	---	---
R. I-----	2,445	---	16	2,947	2,963	121.2	2,169	95.3
S. C-----	22,376	---	21,235	---	21,235	94.9	21,646	101.4
S. Dak-----	6,742	---	---	6,806	6,806	100.9	7,553	112.0
Tenn-----	28,654	---	26,136	---	26,136	91.2	24,810	92.5
Tex-----	28,120	92	24,718	---	24,810	88.2	23,319	84.0
Utah-----	20,991	---	20,059	---	20,059	95.6	15,099	79.2
Vt-----	47,023	3,156	21	45,382	48,559	103.3	36,087	75.6
Va-----	57,649	1,825	58,719	---	60,544	105.0	59,065	96.5
Wash-----	26,345	---	---	30,130	30,130	114.4	30,285	55.2
W. Va-----	6,613	57	---	8,707	8,764	132.5	5,489	88.7
Wis-----	128,895	---	99	110,358	110,457	85.7	128,388	102.3
Wyo-----	1,134	---	310	---	310	27.3	309	26.2
U. S.-----	2,058,592	9,578	788,902	990,494	1,788,974	86.9	1,749,752	83.8

<sup>1/</sup> Includes only records reported in time for use in the quarterly sire evaluations in 1966.<sup>2/</sup> Includes lactation records from the American Guernsey Cattle Club.<sup>3/</sup> Records are expressed as percent of cows enrolled in DHIA. Percentages vary by State and may exceed 100 percent depending upon reporting and processing procedures in December and January of each year and year to year changes in reporting procedures.



TABLE 11.--Lactation records received by USDA for selective years

Year	Standard DHIA cows enrolled on January 1 of each year	Lactation records reported to USDA	Standard DHIA cows represented by records reported
	Number	Number	Percent
1956	1,406,306	658,086	47
1960	1,746,752	886,495	51
1964	2,010,144	1,437,959	72
1965	2,087,581	1,749,752	84
1966	2,058,592	1,788,974	87

TABLE 12.--Relative frequency of Standard DHIA lactation record rejects in 1966, listed on Form 1060

Reject code	Type of reject	Total records rejected	Percent of all rejects	Percent of all records <u>1/</u>
D	Birth date-----	35,071	19.9	1.9
H	Identification of parents-----	25,650	14.6	1.4
F	Possible twin-----	25,319	14.4	1.4
B	Dam number, registered-----	18,027	10.2	1.0
A	Sire number, registered-----	16,552	9.4	.9
Q	Calving date-----	14,783	8.4	.8
M	Eartag identification-----	3,074	1.7	.2
R	Unusual percent test-----	2,140	1.2	.1
I	Cow number, registered	1,534	.9	.1
C	Cow, sire, or dam registration-number, blank or alphabetic.	1,485	.8	.1
J	Same identification number,---cow, sire, or dam.	502	.3	( <u>2/</u> )
W	Identification conflict with---breed association data.	221	.1	( <u>2/</u> )
V	Days in milk, 3X exceeds 2X---	210	.1	( <u>2/</u> )
G	Herd code number-----	172	.1	( <u>2/</u> )
T	Production-----	172	.1	( <u>2/</u> )
E	Breed-----	107	.1	( <u>2/</u> )
P	Production, blank, or -----alphabetic in milk and fat field.	34	( <u>2/</u> )	( <u>2/</u> )
Pre-edit rejects <u>3/</u> -----		30,985	17.6	1.7
Total or percent-----		176,038	100.0	9.6

1/ 1,788,974 incoming records plus 57,316 records re-entered after correction by DHIA = 1,846,290.

2/ Less than 0.05 percent.

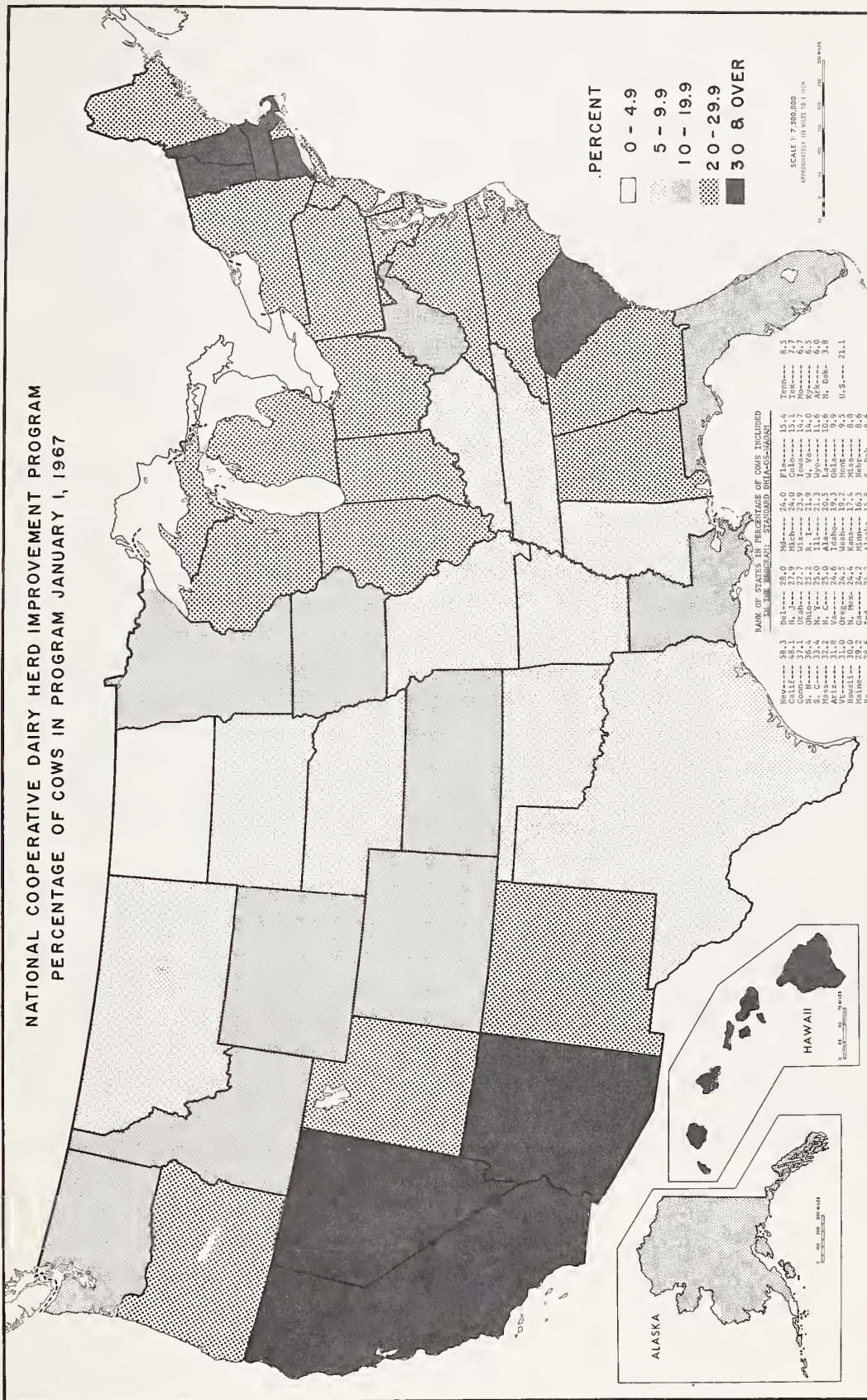
3/ Major types of pre-edit rejects involve alphabetics, blanks, or zeros in cow, sire, or dam numbers of registered cows; alphabetics, blanks, or zeros in birth dates; unequal breeds for registered cows and their sires, or dams; cows with zero breeds and registered cows with breed 8; unequal breeds for eartag cows and their sires; alphabetics or blanks in the lactation records; records beginning with an abortion; estimated records; and nurse cow records.

TABLE 13.--Number of bulls summarized in 1966 with one or more daughters in individual States, by breed

State	Ayrshire	Guernsey	Holstein	Jersey	Brown Swiss	Shorthorn	Red Dane	Other	Red Poll	Total
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
Maine-----	54	113	455	115	28	3	--	--	--	768
New Hampshire-----	95	88	478	137	45	8	--	--	--	851
Vermont-----	116	153	900	292	77	2	--	--	--	1,540
Massachusetts-----	113	161	733	172	58	5	--	--	--	1,242
Rhode Island-----	70	74	249	23	--	--	--	--	--	416
Connecticut-----	86	258	712	89	53	--	--	--	--	1,198
New York-----	179	362	2,301	342	132	5	4	--	--	3,325
New Jersey-----	13	216	707	98	109	--	--	--	--	1,143
Pennsylvania-----	181	657	2,051	247	119	19	--	1	--	3,275
Ohio-----	109	396	1,196	374	179	21	--	--	--	2,275
Indiana-----	56	384	922	185	121	39	10	--	2	1,719
Illinois-----	89	330	1,119	165	150	22	--	--	--	1,875
Michigan-----	56	238	1,290	169	106	18	14	--	--	1,891
Wisconsin-----	55	493	1,965	180	181	36	--	--	2	2,912
Minnesota-----	102	260	1,391	178	132	42	--	--	--	2,105
Iowa-----	109	227	1,274	205	192	54	--	--	--	2,061
Missouri-----	--	163	641	137	34	28	--	--	--	1,003
North Dakota-----	1	33	315	7	41	6	--	--	--	403
South Dakota-----	51	24	414	26	45	--	--	--	--	560
Nebraska-----	16	126	493	72	78	26	--	--	--	811
Kansas-----	79	138	702	109	101	13	--	--	--	1,142
Delaware-----	31	58	281	32	17	--	--	--	--	419
Maryland-----	69	235	894	104	91	7	--	--	--	1,400
Virginia-----	68	294	870	104	98	--	--	--	--	1,434
West Virginia-----	49	51	392	63	4	--	--	--	--	559
North Carolina-----	40	242	675	216	50	--	--	--	--	1,223
South Carolina-----	11	288	357	223	62	1	--	--	--	942
Georgia-----	53	134	478	185	87	--	--	--	--	937
Florida-----	33	244	301	188	73	--	--	--	--	839
Kentucky-----	23	115	621	137	58	--	--	--	--	954
Tennessee-----	76	228	446	222	93	8	--	--	--	1,073
Alabama-----	33	93	293	157	53	--	--	--	--	629
Mississippi-----	59	168	222	180	39	--	--	--	--	668
Arkansas-----	9	59	261	46	12	14	--	--	--	401
Louisiana-----	3	172	158	69	22	--	--	--	--	424
Oklahoma-----	45	107	388	78	22	29	--	--	--	669
Texas-----	28	106	534	239	59	2	--	--	--	968
Montana-----	6	22	153	29	21	--	--	--	--	231
Idaho-----	22	129	473	107	33	3	--	--	--	767
Wyoming-----	--	17	71	--	--	--	--	--	--	88
Colorado-----	14	136	414	42	42	5	--	--	--	653
New Mexico-----	--	61	198	44	--	--	--	--	--	303
Arizona-----	--	87	332	23	9	--	--	--	--	451
Utah-----	16	70	431	81	6	--	--	--	--	604
Nevada-----	--	--	84	59	6	--	--	--	--	149
Washington-----	44	192	441	121	27	5	--	--	--	830
Oregon-----	12	141	268	157	31	4	--	--	--	613
California-----	46	131	981	201	63	--	--	--	--	1,422
Puerto Rico-----	--	--	25	--	--	--	--	--	--	25
Hawaii-----	--	--	26	--	--	--	--	--	--	26
Alaska-----	--	--	14	--	39	--	--	--	--	53
Total sire records sent to States-----	--	--	--	--	--	--	--	--	--	52,269
Total number of individual sires summarized-----	643	2,989	10,433	2,264	696	195	14	1	4	17,239



# NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM PERCENTAGE OF COWS IN PROGRAM JANUARY 1, 1967



OFFICIALS IN CHARGE OF DAIRY-HERD-IMPROVEMENT ASSOCIATIONS IN THE STATES

Ala----R. S. Jones, Jr., Dairy Science Dept., Auburn University, Auburn 36830  
 Alaska--W. J. Sweetman, Experiment Station Research Staff, University of Alaska, Palmer  
 99645  
 Ariz----W. R. Van Sant, Dept. of Dairy Science, University of Arizona, Tucson 85721  
 Ark-----L. Ratcliff, Animal Industry & Veterinary Science Dept., University of Arkansas,  
 Little Rock 72203  
 Calif---R. D. Appleman, Extension Service, University of California, Davis 95616  
 Colo----D. C. Jordan, Animal Science Dept., Colorado State University, Fort Collins 80521  
 Conn----R. H. Benson, Animal Industries Dept., University of Connecticut, Storrs 06268  
 Del-----W. R. Hesseltine, Animal & Poultry Science Dept., University of Delaware 19711  
 Fla-----C. W. Reaves, Extension Dairy Section, University of Florida, Gainesville 32603  
 Ga-----W. H. McKinney, Animal Industry Division, University of Georgia, Athens 30601  
 Hawaii--H. R. Donoho, Animal Science Dept., University of Hawaii, Honolulu 96822  
 Idaho---G. W. Cleveland, Dairy Science Dept., University of Idaho, Boise 83701  
 Ill-----J. G. Cash, Dairy Science Dept., University of Illinois, Urbana 61803  
 Ind-----S. M. Gregory, Dept. of Animal Sciences, Purdue University, Lafayette 47907  
 Iowa---D. E. Voelker, Animal & Dairy Science Dept., Iowa State University, Ames 50010  
 Kans---E. R. Bonewitz, Dairy Science Dept., Kansas State University, Manhattan 66504  
 Ky-----E. C. Troutman, Dairy Science Dept., University of Kentucky, Lexington 40506  
 La-----N. J. Matherne, La. Agr. Extension Service, Louisiana State University, Baton  
 Rouge 70803  
 Maine---N. R. Ness, Animal Science Dept., University of Maine, Orono 04473  
 Md-----C. M. Chance, Dairy Science Dept., University of Maryland, College Park 20742  
 Mass----F. N. Dickinson, Veterinary & Animal Sciences Dept., University of Massachusetts,  
 Amherst 01003  
 Mich----M. A. Wilson, Dairy Dept., Michigan State University, East Lansing 48823  
 Minn----R. W. Wayne, Dairy Husbandry Dept., University of Minnesota, St. Paul 55101  
 Miss----G. B. Crain, Dairy Science Dept., Mississippi State University, State College 39762  
 Mo-----A. G. Lane, Dairy Husbandry Dept., University of Missouri, Columbia 65202  
 Mont----E. J. Peace, Dept. of Animal Science & Range Management, Montana State College,  
 Bozeman 59715  
 Nebr----C. W. Nibler, Dairy Science Dept., University of Nebraska, Lincoln 68503  
 Nev-----H. P. Adams, Animal Science Dept., University of Nevada, Reno 89507  
 N. H----C. H. Boynton, Animal Science Dept., University of New Hampshire, Durham 03824  
 N. J----E. T. Oleskie, Animal Science Dept., Rutgers University, New Brunswick 08903  
 N. Mex--J. B. Ellis, Dairy Dept., New Mexico State University, University Park 88070  
 N. Y----J. D. Burke, Animal Husbandry Dept., Cornell University, Ithaca 14850  
 N. C----F. D. Sargent, Animal Science Dept., North Carolina State University, Raleigh 27607  
 N. Dak--G. R. Fisher, Dairy Husbandry Dept., North Dakota State University, Fargo 58103  
 Ohio----W. R. Taylor, Dairy Science Dept., Ohio State University, Columbus 43210  
 Okla----J. E. Pendleton, Dept. of Dairying, Oklahoma State University, Stillwater 74075  
 Oreg----D. E. Anderson, Animal Science Dept., Oregon State University, Corvallis 97331  
 Pa-----H. C. Gilmore, Dairy Science Dept., Pennsylvania State University, University  
 Park 16802  
 P. R----M. J. Ortiz, Animal Husbandry Dept., University of Puerto Rico, Rio Piedras 00931  
 R. I----J. W. Atwood, Dairy Science Dept., University of Rhode Island, Kingston 02881  
 S. C----C. H. Lomas, Dairy Science Dept., Clemson University, Clemson 29631  
 S. Dak--E. J. Kleen, Dairy Science Dept., South Dakota State University, Brookings 57007  
 Tenn----V. D. Parsons, Dairy Dept., University of Tennessee, P.O. Box 1071, Knoxville 37901  
 Tex-----J. W. Davis, Jr., Dairy Science Dept., Texas A & M University, College Station 77841  
 Utah----J. J. Barnard, Dairy Industry Dept., Utah State University, Logan 84321  
 Vt-----W. P. Leamy, Animal & Dairy Science Dept., University of Vermont, Burlington 05401  
 Va-----W. N. Patterson, Dairy Science Dept., Virginia Polytechnic Institute, Blacksburg  
 24061  
 Wash----B. F. Kelso, Animal Sciences Dept., Washington State University, Puyallup 98371  
 W. Va---R. O. Kelley, Animal Industry & Veterinary Science Dept., West Virginia University,  
 Morgantown 26506  
 Wis-----E. E. Starkey, Dairy Science Dept., University of Wisconsin, Madison 53706  
 Wyo-----I. W. Slater, Division of Animal Science, University of Wyoming, Laramie 82071





UNITED STATES DEPARTMENT OF AGRICULTURE  
Agricultural Research Service  
Beltsville, Maryland 20705

Postage and Fees Paid  
U.S. Department of Agriculture

---

Official Business